



RETROSPECTIVE ANALYSIS HEALTH CARE MERGERS

APRIL 17, 2019

Emily Walden
Consultant

CONFIDENTIALITY

Our clients' industries are extremely competitive, and the maintenance of confidentiality with respect to our clients' plans and data is critical. NERA Economic Consulting rigorously applies internal confidentiality practices to protect the confidentiality of all client information.

Similarly, our industry is very competitive. We view our approaches and insights as proprietary and therefore look to our clients to protect our interests in our proposals, presentations, methodologies and analytical techniques. Under no circumstances should this material be shared with any third party without the prior written consent of NERA Economic Consulting.

© NERA Economic Consulting

Tailoring Retrospective Merger Analysis Allows for Better Prospective Assessment

- In a single case, helps determine the impact of a specific merger
- If many mergers are analyzed, can inform antitrust policy
- Retrospective analysis can tell us something about the past but also can help make predictions

Retrospective Merger Analysis in Healthcare Merger Review

A retrospective analysis can be used to evaluate theory and model fit for specific mergers, for instance:

1. Vertical mergers between physician groups and hospitals
 - Does a proposed theory fit the facts of the market?
 - Doesn't require estimating a full model – just need to identify specific testable implications from the model

2. Horizontal hospital mergers (Beth Israel Lahey Health)
 - How accurate are a model's predicted price effects?
 - We can do this if we can estimate a full model

Physician and Hospital Mergers

Vertical Integration in Healthcare

- Healthcare firms are exploring vertical models
 - CVS/Aetna, Cigna/Express Scripts
- Physician and hospital integration
 - Share of physicians employed by hospitals increased from 28 to 44 percent between 2008 and 2016
 - St. Luke's/Saltzer (2012), Sanford/Mid-Dakota (2016)
- Vertical integration in healthcare may result in both pro- and anti-competitive effects
- Retrospective analysis can help determine which will occur

Economic Framework of Vertical Integration

Competitive Harm

Efficiencies

Foreclosure

Elimination of potential entry

Collusion

Incentive alignment

Economic Framework of Vertical Integration

Competitive Harm

Efficiencies

Foreclosure

Incentive alignment

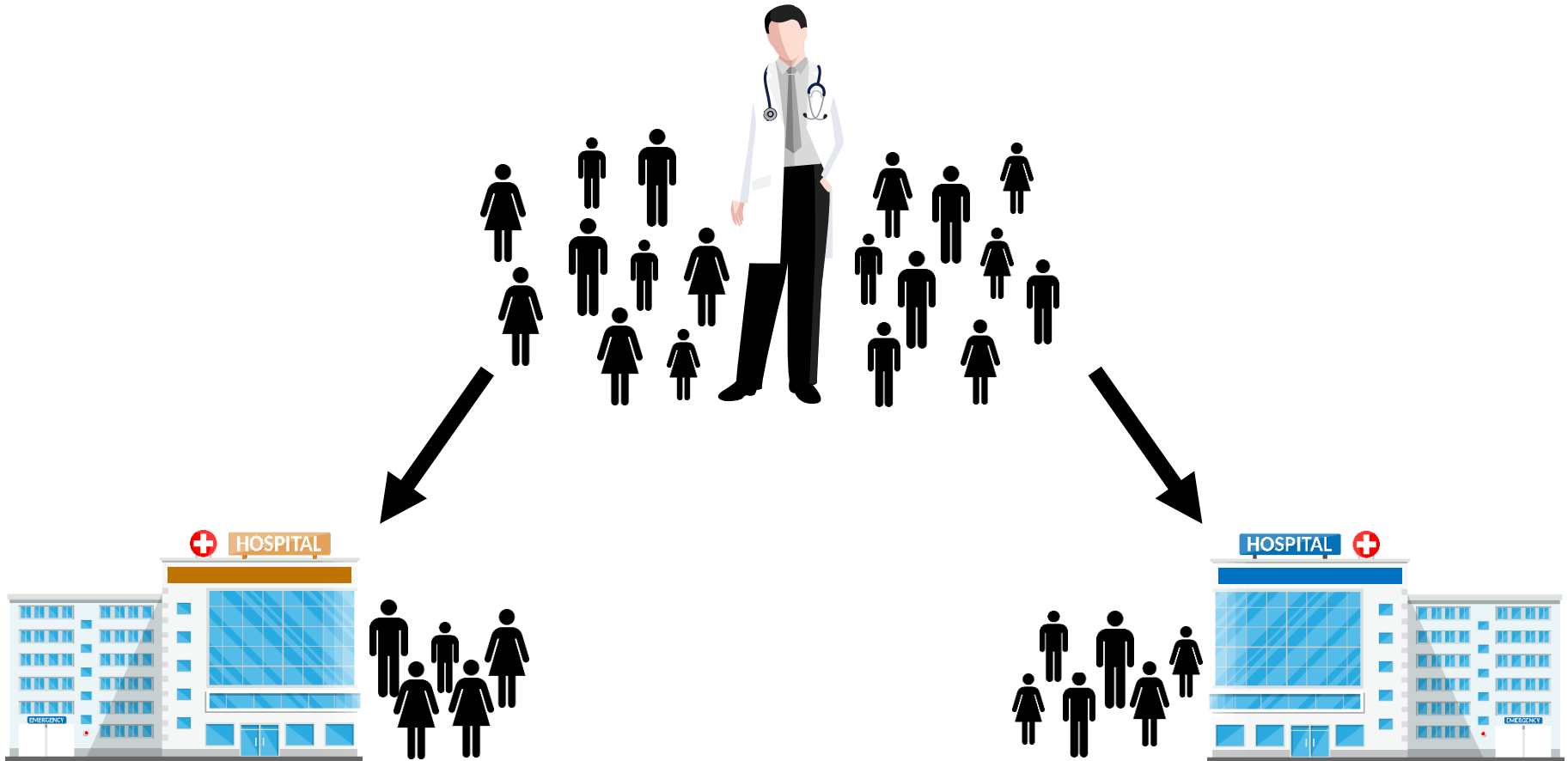
Elimination of potential entry

Collusion

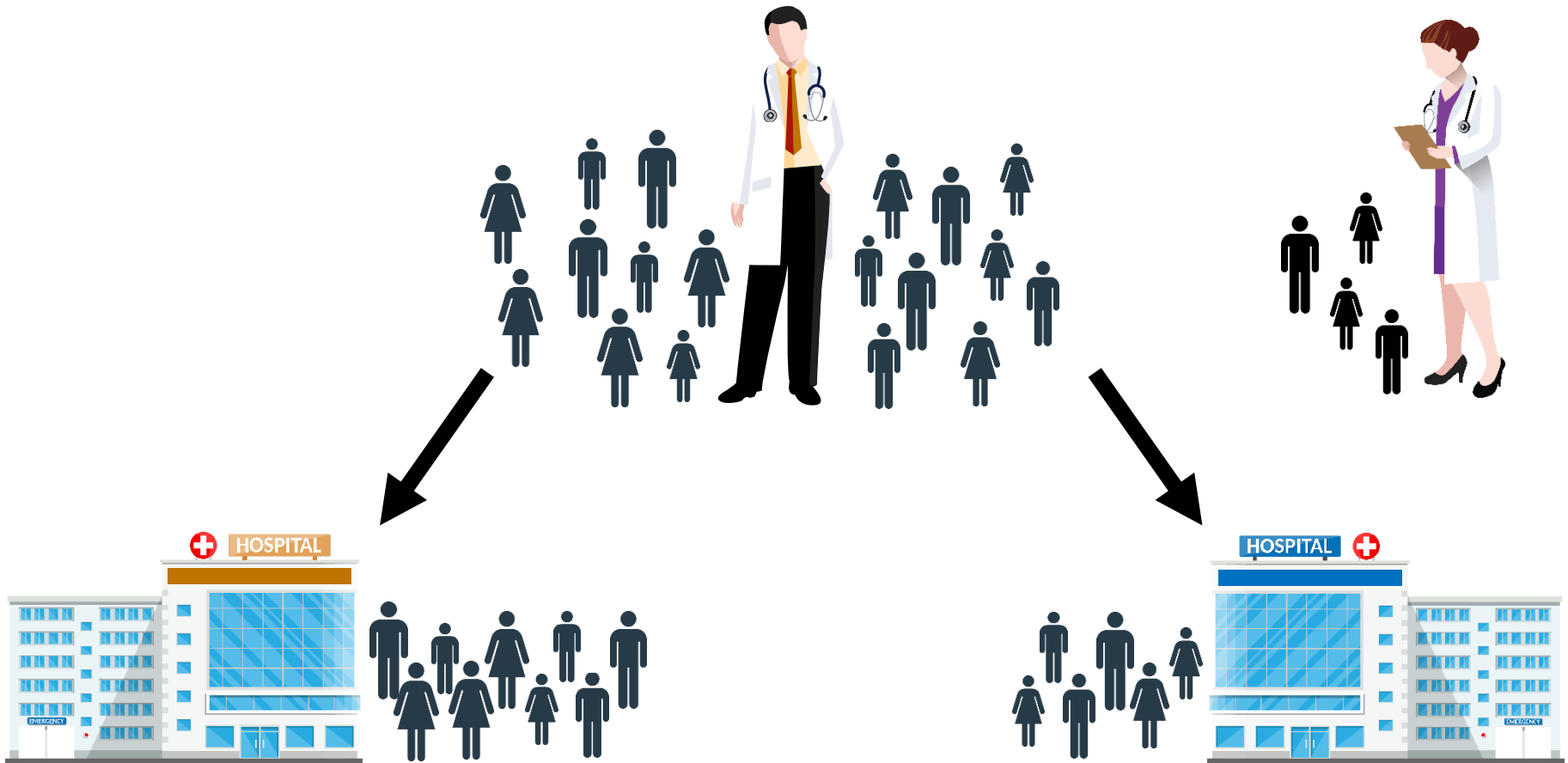
Vertical Foreclosure



Vertical Foreclosure in Physician and Hospital Mergers



Vertical Foreclosure in Physician and Hospital Mergers



Will a Merger Result in Foreclosure?

A firm will engage in foreclosure post-merger only if it is profitable

- Option 1: construct a model that incorporates
 - Upstream competition
 - Margins
 - Capacity constraints
 - Ability to direct patients
- Option 2: assess what's happened after past transactions

Empirical Analysis of Vertical Foreclosure in Physician and Hospital Mergers

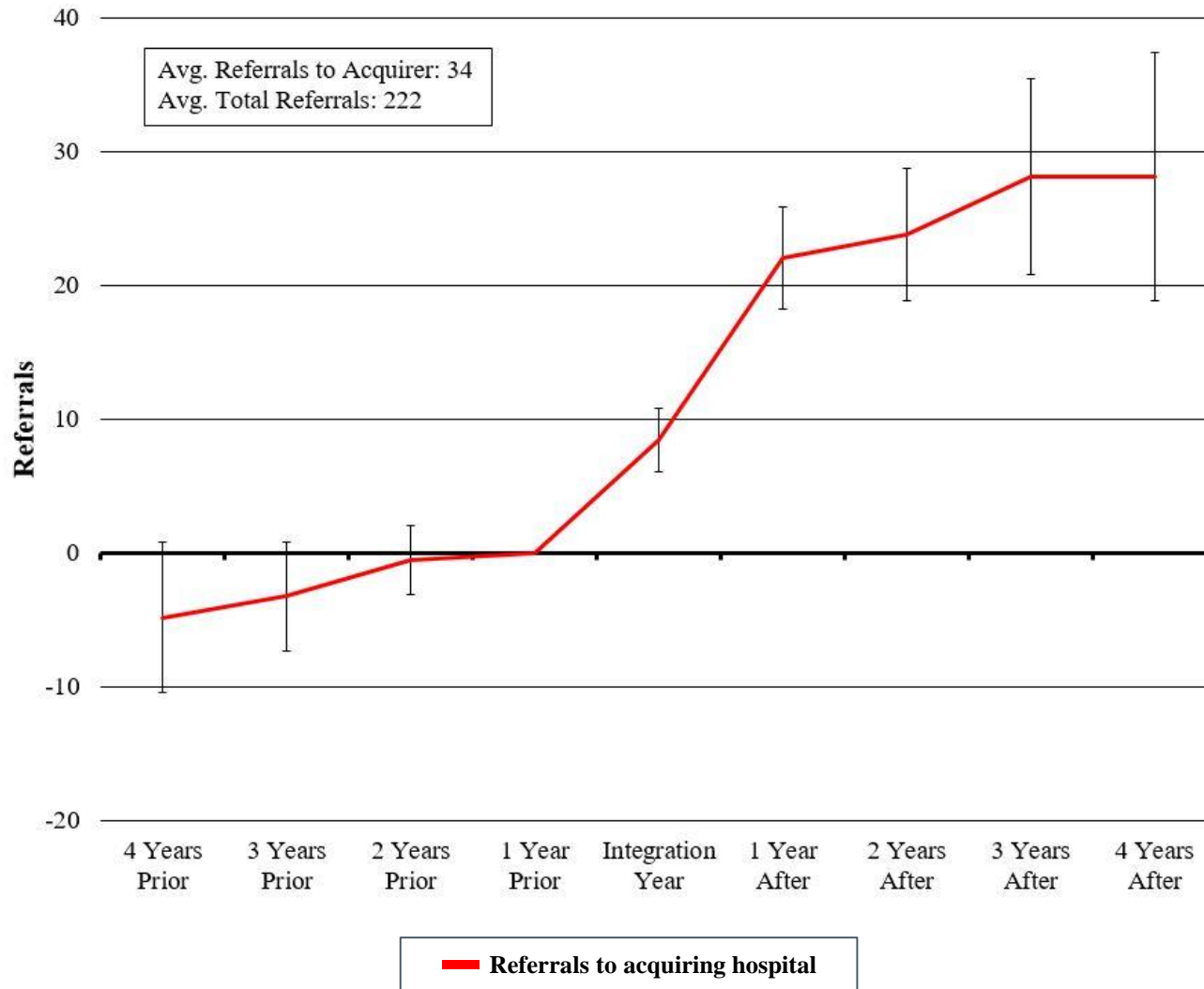
Critical question: do physician practice and hospitals mergers lead to foreclosure?

Methodology: analyzed 941 mergers between hospitals and physician practices that took place between 2008 and 2014

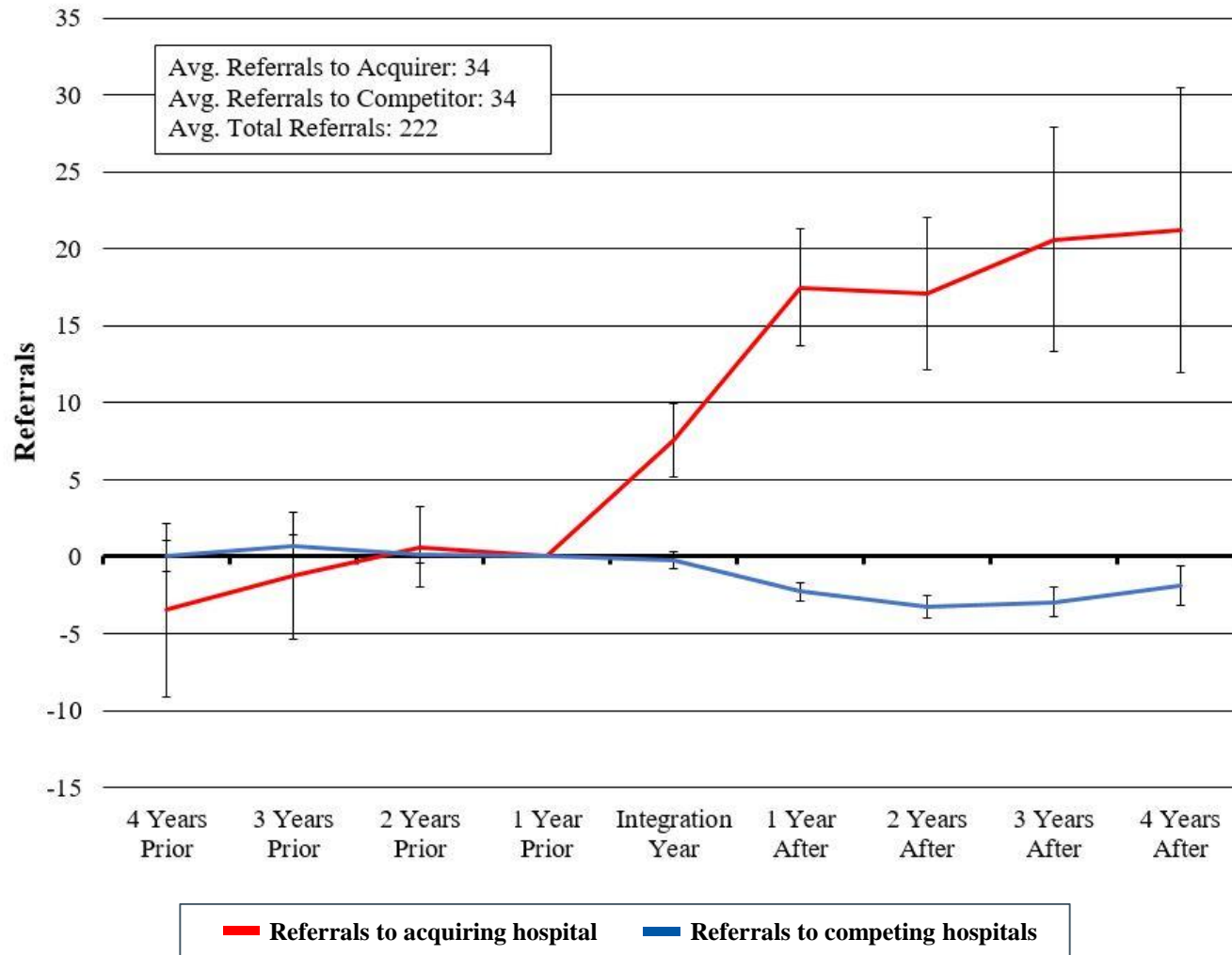
Factors analyzed:

- Do referrals from acquired PCPs to specialists employed by the acquirer increase post-merger?
- Is there a reduction of acquired PCPs' referrals to downstream competitors?

Do Referrals from Acquired PCPs to Specialists Employed by the Acquirer Increase Post-merger?



Is There a Reduction of Acquired PCPs' Referrals to Downstream Competitors?



Implications for Prospective Analysis

- This analysis shows how the *average* merger impacted referrals – an individual merger may differ
- To assess a specific merger, we can narrow the set of mergers analyzed
- This analysis provides evidence as to whether anticompetitive effects may occur but does not make a specific prediction about price

Beth Israel Lahey Health

The Beth Israel Lahey Health Transaction

- In July 2017, five Eastern MA health systems signed a letter of intent to merge
 - Lahey Health, Beth Israel Deaconess Medical Center (BIDMC), Mount Auburn Hospital (MAH), New England Baptist Hospital (NEBH), and Seacoast Regional Health System (Anna Jacques)
 - In October 2017, the parties' contracting affiliates also signed an agreement to create a clinically integrated network
- Objective of the transaction was to create a network of relatively low-priced, high-quality providers to compete with Partners
- Economic analysis implemented retrospective analyses that used past transactions undertaken by the parties

Two-Stage Model Assesses Price Effects in Healthcare Mergers





- **First stage:** hospitals and insurers bargain over price
- **Second stage:** patients choose from among the hospitals in their network

- The Massachusetts Health Policy Commission (HPC) estimated a predicted price effect of 5-8 percent

- The Parties estimated an alternate model that predicted a price effect of 1-2 percent

We used a retrospective analysis to determine which fit the data better

Two-Stage Merger Simulation: Different Assumptions

- Step 1 Estimate patients' willingness-to-pay (WTP) for each system in the market 
- Step 2 Estimate the historical relationship between WTP and price 
- Step 3 Predict the change in WTP resulting from the transaction 
- Step 4 Apply the estimate from Step 2 to Step 3 to predict the change in price resulting from the transaction 

Differences in Relationship between WTP and Price

- MA established a Cost Growth Benchmark in 2012 that caps price growth
- HPC looked at the relationship between WTP and price at a given point in time
 - Baked in the relationship between price and WTP that existed prior to Cost Growth Benchmark
- The parties proposed an alternative model that analyzed changes in the relationship between WTP and price over time after 2012
 - Explicitly accounted for the effect of the Cost Growth Benchmark

Retrospective Analysis of Past Transactions

- Analyzed five prior transactions by the parties
- Compared realized price changes to price increases predicted by two models
 - One model looked at a cross-section of data as the HPC's did
 - The other was the model proposed by the Parties
- Realized price increases were much lower than those predicted by the cross-sectional model

Outcome

- In November 2018, the parties reached a settlement with the MA Attorney General Office
- Agreed to restrict price increases and spending and improve access to care to low-income communities
- The FTC closed their investigation without taking further action

QUALIFICATIONS, ASSUMPTIONS AND LIMITING CONDITIONS

This report is for the exclusive use of the NERA Economic Consulting client named herein. This report is not intended for general circulation or publication, nor is it to be reproduced, quoted or distributed for any purpose without the prior written permission of NERA Economic Consulting. There are no third party beneficiaries with respect to this report, and NERA Economic Consulting does not accept any liability to any third party.

Information furnished by others, upon which all or portions of this report are based, is believed to be reliable but has not been independently verified, unless otherwise expressly indicated. Public information and industry and statistical data are from sources we deem to be reliable; however, we make no representation as to the accuracy or completeness of such information. The findings contained in this report may contain predictions based on current data and historical trends. Any such predictions are subject to inherent risks and uncertainties. NERA Economic Consulting accepts no responsibility for actual results or future events.

The opinions expressed in this report are valid only for the purpose stated herein and as of the date of this report. No obligation is assumed to revise this report to reflect changes, events or conditions, which occur subsequent to the date hereof.

All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the client. This report does not represent investment advice nor does it provide an opinion regarding the fairness of any transaction to any and all parties.

NERA

ECONOMIC CONSULTING